

REMARKS

Prior to entry of the instant amendment, claims 1-30 are pending in the subject application. Claims 12-30 have been canceled as claims directed to a non-elected group. Applicants, of course, reserve the right to file and prosecute the subject matter of these non-elected claims in one or more divisional applications. Claim 1 is the sole independent claim.

Applicants appreciate the Examiner's acknowledgement of applicants' claim for foreign priority and receipt of a certified copy of the priority document.

Applicants further appreciate the Examiner's acceptance of the drawings filed on October 21, 2003.

Applicants note that U.S. Patent No. 6,312,615 to Silverbrook is not listed on the Notice of References Cited, i.e., Form-892, attached to the outstanding Office action. Applicants respectfully request that the next Office action include a corrected Form-892 additionally citing U.S. Patent No. 6,312,615 as one of the references cited by the Examiner.

Applicants appreciate the Examiner's consideration of the Information Disclosure Statements filed October 21, 2003, February 26, 2004, and March 24, 2004.

Claims 1-11 are presented to the Examiner for further prosecution on the merits.

A. Introduction

In the outstanding Office action, the Examiner rejected claims 1, 2, 7-9 and 11 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,412,918 to Chen et al. ("the Chen et al. reference") in view of U.S. Patent No. 5,855,835 to Gordon et al. ("the Gordon et al. reference"); rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over the Chen et al. reference in view of the Gordon et al. reference and further in view of U.S. Patent No. 5,841,452 to Silverbrook ("the Silverbrook '452 reference"); and rejected claims 4-6 under 35 U.S.C. § 103(a) as being unpatentable over the Chen et al. reference in

view of the Gordon et al. reference and further in view of U.S. Patent No. 5,859,654 to Radke et al. ("the Radke et al. reference").

B. Asserted Obviousness Rejection of Claims 1, 2, 7-9 and 11

In the outstanding Office action, the Examiner rejected claims 1, 2, 7-9 and 11 under 35 U.S.C. § 103(a) as being unpatentable over the Chen et al. reference in view of the Gordon et al. reference. It is respectfully submitted that these claims are patentably distinct from the combination of cited prior art references for at least the reasons set forth below.

Claim 1 recites "a heat dissipating layer stacked on the plurality of passivation layers." The heat dissipating layer is further recited as being "made of a thermally conductive metal for dissipating heat from the heater." It is respectfully submitted that the combination of cited prior art references fails to disclose or suggest such a heat dissipating layer.

The present invention, as recited in claim 1, includes a heat dissipating layer 128. According to paragraph [0072] of the original specification, the heat dissipating layer 128,

functions to dissipate the heat from the heater 142 or from around the heater 142. That is, the heat residing in or around the heater 142 after ink ejection is transferred to the substrate 110 and the heat dissipating layer 128 via the heat conductive layer 124 and then dissipated. This configuration facilitates quick heat dissipation after ink ejection and lowers the temperature around the nozzle 138, thereby providing a stable printing at a high operating frequency.

Thus, a feature of the present invention is the rapid dissipation of heat generated by the heater using the heat dissipating layer.

In the outstanding Office action, the Examiner compares the first substrate 100 of the Chen et al. reference with the heat dissipating layer of the present invention. The Examiner states that the "first substrate 100 is made of metal and metal radiates heat." *Office action of Aug. 13, 2004, at p. 3.* While the Chen et al. reference may disclose a metal substrate formed as a top layer of an inkjet printhead, the first substrate 100 of the Chen et al. reference is not a

heat dissipating layer. With reference to FIG. 3 of the Chen et al. reference, the first substrate 100 is not able to act as a heat dissipating layer due to the presence of a thermal barrier layer 112 between the heater 110 and the first substrate 100. The positioning of the thermal barrier layer 112 prevents heat generated by the heater 110 from being transferred to or dissipated by the first substrate 100.

Accordingly, it is respectfully submitted that the first substrate 100 of the Chen et al. reference, although made of metal, fails to dissipate heat from the heater because of the thermal barrier layer interposed therebetween.

Further, the Gordon et al. reference fails to provide the teaching noted above as missing in the Chen et al. reference.

Thus, it is respectfully submitted that the combination of the Chen et al. and the Gordon et al. references fail to disclose or suggest the present invention as recited in claim 1. The remaining claims depend, either directly or indirectly, from one of these independent claims, and are believed to be allowable for at least the reasons set forth above regarding their respective base claims. Therefore, it is respectfully requested that this rejection be withdrawn.

C. Asserted Obviousness Rejection of Claims 3 and 10

In the outstanding Office action, the Examiner rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over the Chen et al. reference in view of the Gordon et al. reference and further in view of the Silverbrook '452 reference.

Claims 3 and 10 depend directly and indirectly, respectively, from independent claim 1, and are believed to be allowable for at least the reasons set forth above regarding their base claim. The Silverbrook '452 reference fails to provide the teaching noted above as missing in the Chen et al. and the Gordon et al. references. Therefore, it is respectfully

submitted that these claims are similarly allowable, and it is requested that this rejection be withdrawn.

D. Asserted Obviousness Rejection of Claims 4-6

In the outstanding Office action, the Examiner rejected claims 4-6 under 35 U.S.C. § 103(a) as being unpatentable over the Chen et al. reference in view of the Gordon et al. reference and further in view of the Radke et al. reference.

These claims depend directly or indirectly from independent claim 1, and are believed to be allowable for at least the reasons set forth above regarding their base claim. With regard to the Radke et al. reference, the Examiner compares the nozzle plate 14 of the Radke et al. reference to the heat dissipating layer 128 of the present invention. There is no teaching in the Radke et al. reference, however, to suggest that this nozzle plate acts to dissipate heat from the heater. Absent such a teaching, there is no way to determine whether the nozzle plate of the Radke et al. reference has any heat dissipating capacity at all. Thus, the Radke et al. reference fails to disclose a heat dissipating layer as described in the present invention and recited in claim 1. Accordingly, the Radke et al. reference fails to provide the teaching noted above as missing in the Chen et al. and Gordon et al. references. Therefore, it is respectfully submitted that these claims are similarly allowable, and it is requested that this rejection be withdrawn.

E. Conclusion

Since the cited prior art references neither anticipate nor render obvious the subject invention as presently claimed, applicants respectfully submit that claims 1-11 are now in condition for allowance, and a notice to that effect is respectfully requested.

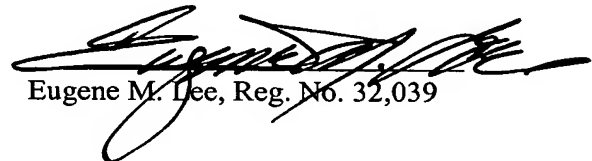
If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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